

Research Immersion Improves Outcomes for Underprepared Freshmen

Lawrence S. Blumer¹ and Alexandra Peister

¹Morehouse College, Department of Biology, 830 Westview Dr. SW, Atlanta GA 30314 USA
(lawrence.blumer@morehouse.edu)

Our implementation of the Howard Hughes Medical Institute, Science Education Alliance, Phage Hunters curriculum (www.seaphages.org) at Morehouse College differed from the implementations at other colleges and universities. We intentionally limited our enrollment to entering freshmen who were deemed underprepared to begin a biology major based on SAT scores. These students were not permitted to initially enroll in a traditional gateway survey-type biology course (BIO 111). Underprepared students were invited to apply for our Phage Hunters course to assess the effectiveness of this research immersion experience on their future success in BIO 111. Six cohorts (N=90) of Phage Hunters students have taken the gateway majors course permitting us to compare their academic performance to peers (N=45) who were similarly underprepared first-time freshmen but who did not participate in Phage Hunters, and to non-peers (N=182) all other students in the same gateway course. Phage Hunters students had a significantly greater pass rate (A,B,C grades) and a significantly lower withdrawal rate than did their peers. Compared to non-peers, Phage Hunters has a significantly lower withdrawal rate and no significant difference in pass rates. These findings indicate that an authentic research immersion experience can dramatically improve student outcomes for underprepared students and consequently improve freshmen student retention.

Keywords: Phage Hunters, research immersion

Link to Original Poster: <http://www.ableweb.org/volumes/vol-40/poster?art=59>

Mission, Review Process & Disclaimer

The Association for Biology Laboratory Education (ABLE) was founded in 1979 to promote information exchange among university and college educators actively concerned with teaching biology in a laboratory setting. The focus of ABLE is to improve the undergraduate biology laboratory experience by promoting the development and dissemination of interesting, innovative, and reliable laboratory exercises. For more information about ABLE, please visit <http://www.ableweb.org/>.

Papers published in *Tested Studies for Laboratory Teaching: Peer-Reviewed Proceedings of the Conference of the Association for Biology Laboratory Education* are evaluated and selected by a committee prior to presentation at the conference, peer-reviewed by participants at the conference, and edited by members of the ABLE Editorial Board.

Citing This Article

Blumer LS and Peister A. 2019. Research immersion improves outcomes for underprepared freshmen. Article 59 In: McMahon K, editor. *Tested studies for laboratory teaching*. Volume 40. *Proceedings of the 40th Conference of the Association for Biology Laboratory Education (ABLE)*. <http://www.ableweb.org/volumes/vol-40/?art=59>

Compilation © 2019 by the Association for Biology Laboratory Education, ISBN 1-890444-17-0. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the copyright owner.

ABLE strongly encourages individuals to use the exercises in this proceedings volume in their teaching program. If this exercise is used solely at one's own institution with no intent for profit, it is excluded from the preceding copyright restriction, unless otherwise noted on the copyright notice of the individual chapter in this volume. Proper credit to this publication must be included in your laboratory outline for each use; a sample citation is given above.